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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/326,785 | 06/04/1999 | ERICH FRANZ HARATSCH | 1-4 | 4629 |

7590 04/03/2003

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EXAMINER

KUMAR, PANKAJ

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2631

DATE MAILED: 04/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Advisory Action

Application No.

09/326,785

Applicant(s)

HARATSCH ET AL. 

Examiner

Pankaj Kumar

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--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 10 March 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____

Claim(s) objected to: _____

Claim(s) rejected: 1-22.

Claim(s) withdrawn from consideration: _____

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

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Applicant says that less (or more) significant bits are not less (or more significant taps) but does not seem to explain why. Instead, applicant argues, within the same section, that since the reference has MSBs of all taps applied to one filter and LSBs of all taps applied to the other filter while applicant's invention has all bits of less significant taps applied to a lower complexity algorithm processing unit and all bits of more significant taps applied to a RSSE. The office maintains that Amrany teaches: processing ISI (Amrany col. 1 lines 43 to 51; paragraph 5; paragraph 7; equalizer compensates for ISI and thus the figures with the equalizers) due to less significant taps (Amrany fig. 2: 92) with a lower complexity cancellation algorithm (Amrany col. 6 last paragraph indicates echo cancellers 548 and 545 are not adapted in parallel since they would chase each other and thus it is a lower complexity algorithm than one that would chase each other; it is also less complex than another system since another system could have more elements such as more filters; 545 is the course echo canceller and 548 is the fine echo canceller as indicated in cols. 6-7) that cancels the less significant taps using tentative decisions (Amrany col. 6 equation 12; fig. 3: 548 with 549 with 546); and processing ISI due to more significant taps (Amrany fig. 2: 91) with a reduced state sequence estimation (RSSE) technique (Amrany fig. 3: 545 with 546; this is a reduced state compared to 548 with 549 with 546 since it requires fewer elements)

Applicant argues that updating filter coefficients does not suggest tentative decisions. The office maintains that since the coefficients are continually updated, the coefficients are tentative.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., tentative

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decision means a decision for the transmitted data symbol that is less reliable than the final decision of the overall detector and that this is used by the lower complexity cancellation algorithm to cancel ISI due to less significant taps) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues that fewer elements do not suggest RSSE. The applicant says that RSSE requires trellis encoding or an ISI corrupted signal using a trellis. The office does not agree since RSSE is just reduced state sequence estimation. Limitations on RSSE from the specification are not read into the claims. The office maintains that fewer elements in a sequence estimation system constitutes a reduced state sequence estimator - RSSE.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., RSSE requires trellis encoding or an ISI corrupted signal using a trellis) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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PREREVIEW EXAMINER

